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# Fax

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**Date:** November 2, 2004

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**Pages:** 6

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☒ **For Review**

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PATENTIN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Trishul M. Chilimbi Examiner: Kuo Liang J. Tang  
Application No.: 09/939,162 Group Art Unit: 2122  
Filed: August 24, 2001 Docket No.: 50037.60US01  
Title: SYSTEM AND METHOD FOR USING DATA ADDRESS SEQUENCES  
OF A PROGRAM IN A SOFTWARE DEVELOPMENT TOOL

CERTIFICATE UNDER 37 CFR 1.6(d): I hereby certify that this correspondence is being sent via facsimile to (571) 273-3705, Mail Stop Amendment, Commissioner for Patents, Attn: Examiner Kuo Liang J. Tang, P.O. Box 1450, Alexandria, VA 22313-1450 on November 2, 2004.

By:   
Name: Ryan T. Grace

INTERVIEW AGENDAClaims for Discussion:

Claim 1: A computer-implemented method for providing feedback regarding a program's data access patterns, comprising:

identifying repetitively occurring data access sequences in a stream of data access references;

displaying a plurality of identifiers, wherein each identifier is associated with one of the data access sequences;

upon selection of one of the plurality of identifiers, identifying code related to the data access sequence associated with the selected identifier; and

generating a stream flow output that displays the occurrences of repetitively occurring data access sequences in the stream of data access references while ignoring non-repetitively occurring data access sequences.

Claim 13: A system for developing computer-executable software, comprising:

an instrumentation tool configured to instrument a software program to produce a trace when the software program is executed;

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a trace analyzer configured to receive the trace and identify repetitively occurring data access sequences;

a stream flow detector that is configured to generate a stream flow output that displays the occurrences of repetitively occurring data access sequences in the stream of data access references while ignoring non-repetitively occurring data access sequences; and

a software development tool configured to use the identified data access sequences and stream flow output in software development.

Claim 20: A computer-readable medium having computer-executable instructions for providing information about a stream of data accesses, comprising:

displaying a plurality of identifiers, wherein each identifier is associated with a repetitively occurring data access sequence;

upon selection of one of the identifiers, displaying an attribute of the associated data access sequence; and

generating a stream flow output that displays the occurrences of repetitively occurring data access sequences in the stream of data access references while ignoring non-repetitively occurring data access sequences.

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**Portion of Specification for Discussion:**

Hot data streams 330 may be sent to stream flow graph detector 320 and/or hot data streams abstractor 315. Stream flow graph detector 320 may use the WPS created by path extractor 305 in conjunction with hot data streams 330 to create stream flow graph 325. A stream flow graph shows the number of times in a trace each hot data stream immediately follows another hot data stream, when intervening cold references are ignored. For example, in stream flow graph 325, the hot data stream designated by B' follows the hot data stream designated by A' 4 times and follows itself once. In addition, the hot data stream represented by A' follows the hot data stream represented by B' 5 times.

The following example illustrates this in a relatively simple WPS. Assume a WPS of **CB ABC EF CB ABC FF CB ABC CB ABC CB D CB ABC** (where spacing is added for readability and hot data streams are shown in bold). ABC directly follows CB 5 times and CB directly follows ABC 4 times and itself once (ignoring intervening cold references). In some senses, stream flow graphs may be thought of as control flow graphs for data accesses. In a more complicated stream flow graphs, many hot data streams may be interconnected by edges showing how often each hot data stream follows another. (Page 11, lines 9-25).

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**Portion of Larus for Discussion:**

All of section 4, pages 263-265.

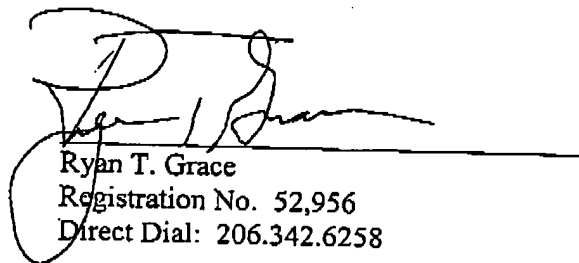
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**Remarks**

Applicants assert that the above highlighted limitations are not taught in Larus. Please feel free to contact applicants' attorney at your earliest convenience to set up a telephonic interview.

Respectfully,

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